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IRISES IN CANADA.

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R. S. STURTEVANT, Editor

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## CONTENTS

The Iris in Japan. *George M. Reed, Brooklyn Botanic Garden* ..... 3
Varietal Notes. *Chas. E. F. Gersdorff* ..... 49
Tribulations and Thoughts of a Novice. *E. N. S. Ringueberg* ..... 50
Iris Tingitana. *J. Denis* (Translated by S. M. Mitchell) ..... 60
Tid-bits 28th. Discussion of Awards; The Iris Guild of Cincinnati; The Crop of American Novelties ..... 61
Test Gardens ..... 67
Notice ..... 68
Publications ..... 69
Policy of Awards ..... 70

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# THE AMERICAN IRIS SOCIETY

## THE IRIS OF JAPAN[1]

GEORGE M. REED

The term Japanese Iris is commonly applied to a special group of these plants which had its tremendous horticultural development in Japan. Varieties have been produced in great number, varying in size and shape of the flower parts as well as range of color. Many of the varieties are described as single, in which there are three large sepals or falls, and three small more or less erect petals or standards. There are other varieties which are spoken of as double, in which the standards have enlarged and assumed the same position and color as the falls.

These iris are commonly regarded as belonging to the botanical species *Iris kaempferi*. There has, however, been a great deal of confusion with reference to the scientific name, and the varieties have been referred to indiscriminately as belonging to *I. kaempferi* and *I. laevigata*. As a matter of fact, they are two very distinct species of iris, both of which have given rise to horticultural forms in Japan.

Since several different kinds of iris, including *Iris japonica, I. gracilipes,* and *I. tectorum,* have been derived from Japan, it might be well for the gardeners of other countries to use the descriptive Japanese name Hanashōbu for the most important group. It is thus known by all the Japanese people, and if this name were employed, all possible confusion with the other iris of Japan would be avoided.

The most noted place in Japan for Hanashōbu is Horikiri, a village located about six miles east from the center of Tokyo, just beyond the Sumida River and the large canal which carries the water for irrigating the surrounding country. Horikiri, the name signifying canal cut, is easily reached in about ten minutes by electric train from Asakasa Station, Tokyo. Arriving at the Horikiri Station, one crosses a long bridge over the canal, which leads directly to the village. One may also proceed to the village by automobile from Tokyo.

[1] Brooklyn Botanic Garden Contributions no. ——.

In former days, it was a common custom to proceed by boat on the Sumida River, getting off a few rods from the present location of the Horikiri Electric Station. Boating on the Sumida River at one time was a favorite outing of the Japanese, and excursions were taken for the viewing of the flowers of the cherries along the banks of the river. At one time in the village of Horikiri there were abundant cherry and peach trees which rivalled those of Sumida River, Ueno Park, and other famous places.

Since early in the 17th century when the government of the Tokugawa Shogunate was established in Yedo, or modern Tokyo, the people of Horikiri have been engaged in growing flowers for the Four Seasons. The region proved very suitable for the cultivation of all kinds of flowering plants, and there was a great demand for material for use in the Ikebana and Moribana, since flower arrangement was universally studied by the families of the daimyos as well as those of the common people. Yedo, in a short period of time, became a very large city in which people of great wealth and political power were located, and they had a stimulating influence on the development of the floral industry.

The cultivation of the iris, or Hanashōbu, at Horikiri began early in the 18th century. The wild plant was introduced and grown along with the other kinds of flowers for use in the Capital. More than a century later, horticultural varieties were developed and introduced into cultivation. Most of these apparently were obtained from Matsudaira Showo, who is given most of the credit for the development of the highly specialized garden varieties. With the introduction of the new types, several gardens of Horikiri soon devoted themselves almost entirely to the cultivation of this plant. At the present time, three of these gardens remain—Kotaka-yen, Horikiri-yen, and Musashi-yen, although the latter is now being abandoned. All of these gardens date back nearly three centuries to the time when Tokyo, or Yedo, became the Shogun's capital. In addition to these special gardens, large areas beyond the village limits are given over to growing Hanashōbu for the general trade, particularly for use as cut flowers.

Soon after the beginning of the 19th century, all these gardens became famous for Hanashōbu, and each year were regularly visited by large numbers of people from Yedo and other places, including wealthy daimyos and their retainers, poets, artists, and

actors. During the period following Admiral Perry's visit to Japan in 1853, general conditions in the country became very much unsettled. After the Restoration, which occurred in 1868, the Horikiri gardens again became popular for visitors, and yearly thousands of people went there to see the Hanashōbu. About 1870 rhizomes of the different varieties were shipped from the gardens to various places in America and Europe, thus introducing the plant to the outside world.

Kotaka-yen.—This garden was founded early in the 17th century. The original owners were farmers, and furnished rice and other food supplies to the daimyos. The garden also engaged in the general business of growing flowers for the Flower Arrangement. The cultivation of Hanashōbu was early introduced and, later, the plant became extremely popular. Much of its popularity was due to the fact that the Daimyo Matsudaira visited the garden when it was in flower. He greatly admired the blossom and later many daimyos, samurai and other prominent people of the Capital visited the garden. The proprietor received from the Daimyo of Owari a tablet which is now fastened on the entrance post. This records the fact that the owner is "Nippon Ichi," or Number One in Japan. The tablet also records the fact that the Capital has appointed the original Hanashōbu garden, Kotaka-yen, Horikiri, as a famous place for scenery in Japan.

The garden was opened to visitors early in the 19th century, but it was during the Bunsei Era (1818–1830) that it became widely known and, in the following years, it was visited by thousands of people, including the artists, who painted the various scenes of Horikiri. By 1840 approximately fifty different varieties of Hanashōbu were grown and, in the following years, the number was greatly increased by the successive owners.

As one enters the garden, there is a characteristic shrine on the left and, slightly beyond, an artificial hill, on the top of which there is a fine wistaria arbor. From this elevation, one gets a good view of the iris just below, as well as the broad level country beyond (Fig. 1). To the right of the path near the entrance is the home of the family. Within the garden there are several exceptionally well developed trained pine trees. Various kinds of other plants are also found on the premises, such as azalea and herbaceous peonies. Most of the area, however, is devoted to Hanashōbu.

The plants are grown in level depressed areas, irregular in size and shape, surrounded with banks which serve as retainers of the

Fig. 1. Kotaka-yen. A view of the garden from the top of the hill, showing Hanashōbu, with the raised walks, bridge, tea pavilions, and visitors. Beyond the garden may be seen the farmland, with various crops, including barley, wheat, vegetables, and fields being prepared for rice.

water and also as walks for the people to view the iris (Fig. 2). The characteristic bridge is also present leading across the canals and serving as a vantage point for viewing the flowers. Probably the areas are simply the former rice paddies converted into iris beds and, during the growing season, the plants are flooded, the water being taken from the adjacent canals.

The varieties are grown in rows of variable length, 5 to 25 feet long, and usually only one kind to a row. The same variety, however, may be repeated at several different places in the garden. The rows are approximately 2 feet apart and, later in the season, rice may be planted between the iris. In 1930 there were approximately sixty named varieties growing in this garden. The owner claims to have more than two hundred varieties, but most of these were in cultivation some little distance from the village.

The garden is primarily a place for growing Hanashōbu for the benefit of visitors. It is made as attractive as possible and special efforts are put forth to have the iris in fine shape during the flowering season. There are several tea houses and viewing pavilions in various parts of the grounds. Some of these are permanent structures, but most of them are temporary, being erected specially for the Hanashōbu season when the garden is open to the public. The visitors are admitted on the payment of a small fee and they may sit in one of the viewing pavilions and enjoy the flowers while sipping their tea and eating the cakes. Cut flowers may also be purchased and taken away.

The wild Hanashōbu probably has been cultivated in this garden for more than two centuries, but the great impetus in the iris was due to the introduction of the highly developed varieties of Matsudaira Showo. Dr. Miyoshi has based his book, "Iris laevigata," illustrated with colored plates of 100 varieties, on the specimens found in this garden, since he believed that the authentically named varieties derived from Matsudaira were to be found there.

**Horikiri-yen.**—This garden has been in the Isokai family for at least ten generations. One of the earliest owners, who lived in the early part of the 17th century, was a floral decorator for the first Tokugawa Shogun. The garden doubtless supplied flowers of the Four Seasons for the wealthy daimyos and other people of Yedo.

The area of the garden is about two acres, of which approximately two-thirds is planted with Hanashōbu (Fig. 3). For the most part, it is restricted to Hanashōbu but, in addition, there are

Fig. 2. Kotaka-yen. Hanashōbu planted in rows and flooded with water.

FIG. 3. Horikiri-yen. A view of the garden, showing some of the iris, the lanterns and the temporary "Fuji-yama" in the background; the latter has a shrine about half way to the top, where visitors may be seen.

a good many cherry and peach trees, azalea, herbaceous peonies, calla lilies, and other plants. The great display, however, occurs in June when the iris comes into flower.

On one part of the grounds, near the entrance, is the private home of the owner, and nearby are other houses occupied by various members of his families. Temporary buildings are erected for the flowering season, when the garden is visited by a large number of people.

The Hanashōbu is grown in depressed beds of irregular shape and size. Usually the areas are flooded with water from the nearby canal, and elevated walks, together with bridges, run through the garden, enabling the people to view the flowers. Doubtless the growing of Hanashōbu began in the early part of the 17th Century when the wild type was introduced. About one hundred years ago the garden began to specialize on this plant, introducing several varieties of Matsudaira Showo. Since that time, new varieties have been created by the various owners and, at the present time, there are growing within the garden between fifty and sixty different kinds. Some distance away the owner has about two additional acres where other varieties and the surplus stock are grown.

**Musashi-yen.**—This garden has a history somewhat similar to that of the previous ones. It also began to specialize on Hanashōbu following the introduction of varieties from Matsudaira. For several decades previously, however, the wild Hanashōbu was grown along with other flowers for the Tokyo trade. About a century ago the garden became a very popular one on account of the iris, and was visited annually by a great many people of all classes. An artificial mound was built in one part of the garden, and tea houses and other accessories were erected in order to make it an attractive one for visitors.

Kanzo Zama was the first owner to specialize on Hanashōbu. He was succeeded by his son and later by his grandson, who continued and greatly extended the cultivation of this plant. Many new varieties were developed, among them Zama-no-mori about 1863. In the year 1868 Takizo Yoshiki became the owner of the garden, and his son and grandson have continued its development, many new varieties being introduced from time to time. Plants are grown in the usual method; the beds, irregular in shape and size, are depressed, and flooded with water. Unfortunately, at the present time this garden is being abandoned.

Yoshino-yen.—This garden is located at Yotsugi, a village lying alongside of the canal about one mile south of Horikiri. It was originally established as a restaurant in the early 17th century by a samurai named Masui and his son, when the Tokugawa Shogun Iyeyasu established his castle in Yedo. The garden was on the road between Mito and the Shogun's capital, and consequently was a very popular place for the daimyos in their processions from their home districts to the capital.

The place was purchased by the present owner's great-grandfather, who was a skillful man at growing flowers. His talent was inherited by his son, who specialized on the Botan, or tree peony. At one time he had an especially fine specimen which was eight to nine feet tall and frequently bore as many as two hundred flowers, most of them well above the heads of the observers. A fire in Meiji 19th (1886) destroyed this plant. He also grew many fine specimens of the chrysanthemum.

This man also obtained about seventy varieties of Hanashōbu from Matsudaira Showo. It was not, however, until about 1885 that the garden began to specialize on this flower. At that time, nearly one hundred varieties were obtained from Horikiri-yen and Kotaka-yen. In the years following, many seedlings have been grown by the owners, and at the present time the garden contains about three hundred and fifty named varieties, a larger number being listed in the early part of the 20th century. One of the favorite varieties is Gosho-asobi; it is a large single flower type with pinkish colored falls (Fig. 4).

The garden has an area of about ten acres, of which nearly one-half is given over to the growing of iris. At the entrance is the large home of the owner and nearby are other houses, as well as several tea pavilions. On one side there is an elevation or artificial hill, on top of which there is a shrine. From the top of this hill one can get a general view of the flowers. There are several very large wistaria arbors in which both the long flower cluster type as well as the more ordinary one is grown. There are several specially trained pine trees, a number of fine cherries, azaleas, and other shrubs. The present owner also grows a considerable number of herbaceous peonies and various bulbs such as tulips and hyacinths.

The great display in the garden, however, is the Hanashōbu which, in former years, attracted large numbers of people during the month of June. The iris is planted in the usual fashion, but

Fig. 4. Yoshino-yen. The owner of the garden standing beside his favorite variety—Gosho-asobi.

the sunken beds are rather large and more rectangular in shape than those found in the gardens of Horikiri. The plants are not flooded with water, although at the time of excessive rain, standing water may be present. Evidently the soil is rather porous and the water table is not very far below the surface. The common yellow flag of Europe (*Iris pseudacorus*) is rather generally mixed in with the Hanashōbu. The present owner also has a good many plants of Siberian iris and different varieties of Kakitsubata (*I. laevigata*).

**Ichikawa.**—This village is located a short distance east of Yotsugi, across the Yedogawa, in the province of Shimosa. Within the village there is a garden, which is primarily a tea house and restaurant place, known as Tambo, or Rice Fields. It has an area of about one acre, of which approximately one-third is planted to iris. There are in addition some wistaria arbors, many azaleas, peonies, waterlilies, calla lilies, and other plants.

The Hanashōbu is planted in sunken beds, but not flooded with water. There are no named varieties and, for the most part, the plants are the single flower type. Various colored kinds are intermingled indiscriminately, since their primary purpose is to make the place attractive for visitors to the restaurant. There is also a large quantity of Kakitsubata found in this garden, growing especially along the banks of the beds and lining the walks; possibly one-quarter of the total area of iris consists of the blue and white varieties of this species.

**Meiji-Jingu.**—The Meiji Shrine in Tokyo was erected in honor of the Emperor of Japan who ruled from the Restoration in 1867 until 1912. The shrine was under construction for several years, being completed in 1920, and is located in the midst of a large park of about seventy-five acres. The fine shrine buildings, as well as the many trees planted there, were provided for by private contributions.

The park originally belonged to Kato Kiyomasa, a relative of Hideyoshi, and one of his foremost retainers. Under the Tokugawa Shogun in the early 17th century, it came into the possession of the Daimyo Hikone. The park was not well taken care of until about 1830, when it was restored and beautified by the Daimyo Ii-kamon-no-kami, a descendant of Hikone, and a powerful Prime Minister of the Shogun. He took a leading part in the events preceding the Restoration, having signed the treaty with Admiral

Perry. At the time of the Restoration in 1867, the park was transferred to the Emperor Meiji who, in later years, often visited it.

In one part of the park there is a narrow winding valley with a brook, starting from a spring at the upper end. This valley was formerly the rice fields of the Daimyo Ii-kamon. About 1884 the brook was dammed in the lower portion and a lotus pond constructed, and the upper part of the valley was converted into a Hanashōbu garden. The valley is about twenty-five to thirty feet wide and three hundred feet long, narrowing at the upper end near the spring. Its total area is about one-half acre. The ground has been leveled into a series of plots with running water on each side, which is kept in place by bamboo fences. These beds are readily flooded by damming the streams with a straw bag, which causes the water to overflow on the individual level areas (Fig. 5). The original iris plants were more or less seedlings and inferior varieties, but in recent years a number of good kinds have been obtained from Horikiri. In 1930 there were approximately sixteen thousand plants, belonging to eighty-five named varieties. Practically all of the iris are Hanashōbu, but at the lower end of the valley there are a few clumps of the yellow flag of Europe (*Iris pseudacorus*).

Near the center of the valley the Little Intervening Cloud Pavilion, Kaku-un-te, is erected, being located in a fine position for views, both up and down the valley (Fig. 6). Just below the pavilion there is a characteristic Yatsu-hashi leading across from one side of the valley to the other through the iris. The valley is surrounded by trees and shrubs, and through the margin of the woods on each side there is a walk. The iris are somewhat shaded in this valley and the water from the spring is comparatively cold, and thus the plants bloom rather late and do not produce particularly large flowers.

The Hanashōbu valley is part of the Secluded Garden of the late Empress. Together with part of the surrounding woods, it is separated off from the main grounds of the shrine. Near the lower end of the valley by the lotus pond a cottage was built for the Empress, where she spent much of her time. The ground slopes down from the cottage to the water and is planted with many azalea bushes. This Secluded Garden is ordinarily open to the public only twice a year. The first occasion is April eleventh, in commemoration of the date of the death of the Empress. It is

FIG. 5. Mèiji-Jingu, Tokyo. The garden in early April, showing the young iris in the leveled areas, and the streams of water on each side. There is also a good view of the bridge and the Viewing Pavilion beyond. People may also be seen on the path in the edge of the woods.

Fig. 6. Mèiji-Jingu, Tokyo. June, when Hanashōbu is in flower; visitors crossing the bridge had assembled under the Viewing Pavilion.

again opened at iris time about June twentieth. On the first opening day there is a private view accorded to various people who are especially invited, tea and refreshments being served. The garden is then opened to the general public for a few days in order that they may view the iris.

**Heian-Jingu.**—This magnificant shrine, located in the heart of Kyoto, is a comparatively modern one, having been erected about 1895. The enormous red Torii which indicates its location is a prominent landmark in the city. To the rear of the shrine buildings there is a large garden with many fine cherry trees, azaleas, pines, and other types of woody plants. The garden is more or less divided into two distinct parts, in one of which there is a comparatively small pond, on the margin of which have been planted a great many varieties of Hanashōbu. No varietal names have been kept, but the large masses give a fine effect across the pond (Fig. 7). In the other part of the garden there is a much larger pond and at several places on its margin there are extensive plantings of Kakitsubata. For the most part, the usual blue-purple variety is growing there, but mixed with it are some plants of the white flower variety. There are also a very few plants of this iris which have red-purple flowers. In both of the ponds there are many waterlilies and pond weeds.

**Ayameike.**—Ayameike has been developed in recent years as a playground by one of the electric railroad companies of Osaka. It is open all the year and attractions have been provided for visitors throughout all the seasons. In different parts of the park are tea houses, restaurants, and various places and types of amusement. The total area of the playground is about one hundred acres, and a large part of this is made up of ponds or lakes. The main lake is very irregular, with numerous bays. On various parts of the grounds there are large plantings of cherry trees, roses, peonies, and other kinds of plants. The most extensive planting, however, is that of Hanashōbu, Near the entrance there is a large area, perhaps two acres in extent, given over entirely to a planting of mixed varieties of this iris. On the margins of the bays of the main lake, many hundreds of plants have been set out (Fig. 8). Undoubtedly there are thousands of plants of Hanashōbu to be found on this playground; to some extent, they are more or less mixed with the common yellow flag of Europe.

Fig. 7. Heian-Jingu, Kyoto. A display of the Hanashōbu. Futaba Photo Co., Kobe.

Fig. 8. Ayameike. A small part of the Hanashōbu plantings. Courtesy of Mr. F. Gau, Manager of the Playground.

Near the main entrance of the playground there is a small collection of species of iris, as well as named varieties of Hanashōbu. These are carefully labeled for the benefit of the visitors.

**Sumi-noe Park.**—This park is being developed in one section of the suburbs of Osaka (Fig. 9). It is a very large area and various features are being provided for. In one portion there is a large planting of Hanashōbu consisting of mixed unnamed varieties. The total area given over to Hanashobu is perhaps forty feet wide and nearly one-quarter mile long; consequently, thousands of plants have been set out. One side of the iris area is perfectly straight and the other nearly so, bounded by a canal. Extending along one side of the iris planting is a very extensive arbor of wistaria. Between this arbor and the iris there are a great many tennis courts. The Hanashōbu makes a wonderful display in June.

**Takaradzuka.**—This small garden is located near Yamamoto. It is primarily designed for flower viewing and many visitors are attracted during the Hanashōbu season (Fig. 10). There are quite a number of named varieties of the iris and during the season there is a very fine display of flowers.

**Tokyo Botanic Garden.**—Some years ago Dr. Manabu Miyoshi had a large collection of authentically named varieties of Hanashōbu which he established while he was making a special study of this plant. His varieties, however, were destroyed at the time of the earthquake and fire in 1923, due to the fact that many people who were rendered homeless found refuge for several weeks within the confines of the botanic garden.

In one portion of the botanic garden there are several ponds which contain various aquatic plants, a few of which are planted with Hanashōbu. For the most part, they are unnamed varieties, probably mostly seedlings. The flowers are relatively small and most of them the single flower type. Mixed in the same ponds with the Hanashōbu are a few clumps of some of the varieties of Kakitsubata.

**Botanic Garden of Nikko.**—The Tokyo Imperial University has established a botanic garden at Nikko, primarily for Alpine plants. They have growing a large number of varieties of Hanashōbu, as well as other iris, and several plants of the wild type have been established (Fig. 11). In a rather large, swampy area there have been set out a good many plants of Hanashōbu and *Iris setosa*. Nearby, under dry land conditions, there is a larger planting of

Fig. 9. Sumi-noe Park, Osaka. The new planting of Hanashōbu. Courtesy of the Superintendent of the Park.

FIG. 10. Takaradzuka Park, near Yamamoto. Visitors viewing Hanashōbu. Futaba Photo Co., Kobe.

Fig. 11. Nikko Botanic Garden. A clump of wild Hanashōbu.

the former. The collection, however, does not include any authentically named varieties. Cultivated types were originally obtained from a place nearby and seed from these was collected and sown, and in this way various new seedlings produced.

**Kyoto Botanic Garden.**—The City of Kyoto has a very extensive botanic garden located between the two branches of the Kamo River. In one portion is a winding stream lined with varieties of Hanashōbu. Altogether, about sixty named varieties are growing there and, during the flowering season, labels are placed opposite the clumps. The display is a very good one, and may readily be observed from the Yatsu-hashi or from the small pavilion on a slight elevation nearby. A short distance from the Hanashōbu there are several clumps of the yellow flag of Europe and also of several different varieties of Kakitsubata (Fig. 12).

Extensive plantings of Hanashōbu may be found in a great many other places in Japan. The Botanic Garden of the University of Hokkaido, in Sapporo, has a large number of named varieties. There is also a good collection of varieties in the Botanic Garden of the Morioka Agricultural College, although no attempt has been made to have correctly named plants. Several of the larger public parks in different cities as well as some of the large private estates may have a good collection of plants.

**Kanagawa Agricultural Station.**—This Experiment Station is located at Ofuna, a short distance south of Yokohama and, for several years, Dr. Bungo Miyazawa, when he was Director of the Station, conducted investigations on herbaceous peonies and on Hanashōbu. His original collection consisted of a great many named varieties obtained from various sources. The wild species was also collected from several localities. Dr. Miyazawa made many crosses between different varieties and grew a large number of seedlings. He has selected about six hundred plants which he regarded as superior. It is several years since he left the Station and, since then, the Hanashōbu plantings have been more or less neglected, so that it is difficult to estimate the value of the new selections.

**Yokohama Nursery Company.**—For many years this nursery has specialized in Hanashōbu, having exported thousands of plants to Europe and America. In the course of its history it has changed its location several times and recently has established new grounds near Totsuka, a short distance from Yokohama. At this place, in

Fig. 12. Kyoto Botanic Garden. Hanashōbu, with the characteristic Yatsuhashi—Eight-plank bridge; the Viewing Pavilion may be seen on the left. Courtesy of Dr. I. Namikawa, Kyoto Imperial University.

a rather wide valley, the nursery has established its collection of named varieties. These are growing under the typical rice paddy conditions. Nearby, the nursery also has a great many new seedlings which have been developed. At another point near their main office at Yokohama, on the top of the bluff, they have a planting of their new list of twenty varieties which were obtained from Toko-en. It is interesting to note that these plants were in excellent condition and seemed to be thriving about as well as the varieties grown in the wet irrigated land.

**Toko-en.**—This nursery is located in the city of Sapporo, Hokkaido, and was founded by Todashi Kamijima before 1880. At about this time he obtained several varieties of Hanashōbu from Horikiri. Later, he began growing seedlings of his own and developed many new named varieties, the best ones being produced between 1900 and 1910. He died at the age of eighty-two in 1919, and the garden is now owned by his son, Ryo Kamijima, who is carrying on the work.

Immediately around the home there is a large planting of mixed varieties of Hanashōbu. They are planted in areas depressed below the general level, more or less irregular in shape and size, and surrounded by many trees and shrubs. The iris, however, are not flooded with water.

Beyond the city limits is the nursery proper. This is established on level ground, where a large number of different kinds of plants such as lilies, peonies, chrysanthemums, and gladioli, are grown. primarily in order to supply the cut flower trade. There is also a large planting of a few varieties of English iris, which seemed to be in a very thriving condition. There were a few varieties of the Siberian iris and Kakitsubata, but most attention was given to Hanashōbu. According to the list of the garden, it has about ninety-five varieties, although the number was considerably larger in former years. This garden developed and named the twenty newest varieties listed by the Yokohama Nursery Company in their catalogue since 1926. These were selected and named by the founder of the garden in the early part of the 19th Century.

**Shuho-en.**—This is a new nursery established in the suburbs of Yokohama by Mr. N. Nishida, who came from Kumamoto in 1923, bringing with him a great many varieties of Hanashōbu which had been developed there. Mr. Nishida claims to have about three hun-

dred and fifty varieties in his nursery, and he is growing additional seedlings with the view to producing new and better kinds. All of his plants have been derived from the Kumamoto type.

The Chugai Nursery Company located at Yamamoto has advertised extensively the Kumamoto iris, having obtained, for the most part, its plants from the stock of Mr. Nishida. It now has a small planting of its own.

**Kumamoto Hanashōbu.**—The Kumamoto iris possess a fame in Japan which is exceeded only by that of the Horikiri varieties. This is due in part to the special methods of cultivation and in part to the many excellent varieties which are grown.

Kumamoto is located in the southeastern part of Japan on the island of Kyushu and, during the Tokugawa Era, it was the domain of the famous Daimyo Hosokawa. During the period 1841–1852 Hanashōbu was brought to Kumamoto from Yedo by Junnosuke Yoshida, a member of the clan of the Daimyo, who was greatly interested in flowers. He learned the art of Hanashōbu cultivation from Matsudaira Showo, obtaining from him several varieties and cultivating them in his villa, Meigetsutei, in Kumamoto.

The unique method of cultivation in Kumamoto is that of growing the iris in pots instead of in the open field (Fig. 13). The planting is usually done as soon as the flower season is over in late June or early July. The rhizomes are separated into single pieces, the old parts being removed, and the tips of the rootlets being cut off; the leaves are also cut off about the middle. The rhizomes are then planted, being placed just below the surface of the soil. Usually a single rhizome is planted in a pot and, during the following year, it will produce a single flower stalk with perhaps a cluster of leaves from lateral buds on each side. The pots used are eight to ten inches in diameter and about the same depth. Sometimes two or three rhizomes are planted together in a larger pot in order to get a corresponding number of flower stalks.

In pot planting, care must be taken for drainage by placing over the holes in the bottom of the pot porous material and, on top of this, coarse dirt mixed with pebbles. Immediately after planting, the pots must be kept away from the sun, wind and rain, the plants being gently sprayed with water. In a short time they will push out new roots and become established in the soil; then the sun shade and wind protectors may be removed. Ordinary common field or garden soil may be used in the pots, mixed with some fine sand, or using the soil alone.

Fig. 13. Kumamoto Hanashōbu. The potted plants of Mr. T. Tsubaki, ready to bloom. Courtesy of Mangetsu-kai, Kumamoto.

In the early days, only a few people were interested in Hanashōbu, but, as time went on, more and more began to cultivate this plant. Finally, in about 1890, there was organized the Mangetsu-kai, or Full Moon Society, which has a membership at present of about sixty. Each member grows his own plants on his premises, endeavoring to produce rare and beautiful specimens. The annual meeting of the society is held at the time of the full moon of June, which is about the fifteenth of the lunar calendar. At that time the specimens are brought by the various growers and placed on exhibition (Fig. 14).

The original varieties were brought from the collection of Matsudaira in Tokyo. Since that time, however, a large number of new kinds have been created. Special characteristics are sought for in the production of a variety and great attention is paid to details of form and arrangement of flower parts. Both single and double kinds are grown, with perhaps a preference for the latter. The double flower white varieties seem to be most desired.

New varieties are produced from seed which is collected and sown immediately at the time of ripening, and special care is taken during the young seedling stages to produce rapid growth. Seedlings are frequently transplanted and if given proper care they will bloom the following year.

The growing of Hanashōbu in pots is another illustration of a very common Japanese floricultural method. The cultivation of all sorts of plants in pots is well nigh universal in Japan. Potted plants of tree peonies, morning glories, chrysanthemums, as well as dwarf trees and shrubs, are to be found everywhere.

The cultivation of Hanashōbu in pots has been transplanted from Kumamoto to other parts of Japan. Marquis Hosokawa, a descendant of the famous daimyo, has a fine residence and garden in Tokyo where he grows the iris according to the Kumamoto method. Mr. T. Takemura, who came to Tokyo about fifteen years ago from Kumamoto, is one of the principal men of his household concerned with the cultivation of Hanashōbu. On June 17, 1930, at the residence of the Marquis, there were a number of very fine specimens grown in pots. These pots were about eight inches in diameter, and the plants were three to four feet tall, mostly about three and one-half feet. In practically every case there was a single flower stalk with a fine terminal flower ten to eleven inches in diameter. All of the varieties displayed in the main room were

Fig. 14. Kumamoto Hanashōbu. The plants arranged on display in the home of Mr. T. Tsubaki. Courtesy of Mangetsu-kai, Kumamoto.

double, although single flowered types were observed in other parts of the residence. Altogether, nineteen plants were arranged along the two sides of the ten mat room, four of the best being placed in the Tokonoma (Fig. 15). There were additional plants on the edge of the veranda, as well as specimens in the yard or sort of nursery, ready to be moved indoors at the proper time. Several different varieties were being grown, one or more specimens of each being on display. Most of them, however, were the double white flower type.

**Ise-shōbu.**—About twenty-five years ago the cultivation of Hanashōbu was rather general in the Ise Provinces, especially in the vicinity of Matsuzaka. At that time there were several people who were interested in its cultivation, fully three hundred different varieties being grown. In recent years, however, the culture of the iris in this vicinity has greatly decreased and now there are only about one hundred varieties cultivated by a very few enthusiastic men, the two most prominent growers being Mr. Eijiro Hattori and Mr. Kensaburo Nagabayashi. The Ise-shōbu were originally developed by Mr. Saikichi Noguchi, who succeeded in raising several excellent varieties. He exchanged his plants with others, so that a great many people became interested and were stimulated to the production of new kinds. Practically all of the plants are grown in pots, especially the superior varieties.

The Ise-shōbu have certain characteristic features; all of the varieties are single. The height of the flower stalks and the leaves should be about the same. The sepals or falls are rather broad and overlap each other, not leaving any space between; they droop downward, not remaining spread out horizontally, and are more or less crinkled like crepe cloth. The crests of the stigmas are zig-zag in shape and the petals or standards are erect and halberd like.

**Hanashōbu of Shogyo-ji Temple.**—Some very fine varieties of iris have been developed by Mr. Enshin Osugi, the Superior Priest of the Shogyo-ji Temple, Kyoto. He is now a man about sixty-five years old and for many years was especially interested in growing Hanashōbu. While he had no special knowledge of botanical science, he had a genius for successfully growing and breeding plants, and he still has in his possession many very fine Bonsai of different kinds of trees and shrubs.

Mr. Osugi began to cultivate Hanashōbu about 1885, having obtained a few varieties from Musashi-yen, Horikiri. Some time

Fig. 15. Kumamoto Hanashōbu. Four fine specimens displayed by Mr. T. Takemura in the Tokonoma of the room in the Tokyo home of Marquis Hosokawa.

later he observed the Goshu-shōbu in the Shiga Prefecture and, greatly admiring this plant, he developed a plan of breeding varieties superior to those which he already had. He obtained a small quantity of seed of the Goshu-shōbu type and began to hybridize with the Horikiri varieties about 1890. In his first attempts he obtained fifteen distinct plants and picked out three of these as superior. He continued the work for several years and at one time had as many as three hundred varieties. Among these, Enoshima, Beni-iro and Zama-no-mori were the best. In general, his best varieties had the principal characteristics of the Goshu-shōbu, but with much larger flowers. One of his special aims was to produce a red variety and, after ten years of crossing and careful selection, he obtained a good red-purple which he called Beni-iro.

The Goshu-shōbu are somewhat similar to the Ise-shōbu; the plants have short, erect leaves; the flower stalk is also short, barely exceeding the height of the leaves; the flowers are rather small, but the sepals or falls are round, overlapping, crinkled or crepe-like.

Mr. Osuki kept his Hanashōbu until about 1923, when he had to give up his garden. For the most part, he cultivated his plants in pots, and his specimens became very well known in Kyoto, the place being frequently visited by many native Japanese as well as foreigners. At one time, roots were exported to America, England and other countries.

**Temporary Displays of Hanashōbu.**—The Japanese are very adept in preparing splendid exhibits of all sorts of plants. Hibya Park, in the center of Tokyo, is frequently converted into a flower garden almost over night. Early in June many large clumps of several different varieties of Hanashōbu were brought in from Horikiri and planted in pots (Fig. 16). The work was so carefully done that the plants showed no evidence of being moved. They continued to bloom, producing large flowers for several days, and thousands of people were able to see them. In a covered booth nearby, the flower stalks of many named varieties were also placed on exhibition, a new supply being brought in every two or three days.

The Kanaya Hotel at Nikko has also developed a unique display (Fig. 17). Just above the hotel there is an artificial pond—"Lake Placid." It is rather small, nearly rectangular in shape, with the water about a foot deep. In the winter time it is used for skating

Fig. 16. Hibya Park, Tokyo. Hanashōbu plants brought in a few days before from Horikiri.

Fig. 17. Kanaya Hotel, Nikko. Lake Placid, with Hanashōbu and the Yatsu-hashi—Eight-plank Bridge.

and other sports, but in the summer Hanashōbu, waterlilies, and other plants are placed in this pond or lake, grown in pots. The iris is brought from a garden nearby shortly before the blooming time and a temporary Yatsu-hashi leading across the pond among the iris is made out of the benches.

**Wild Hanashōbu.**—Hanashōbu is distributed over most of Japan as a native wild plant. It occurs in the mountainous regions from Kyushu, thence through the main island and Hokkaido, as well as further north in Saghalien. It is usually found just at the edge of the tillable land, and it is particularly common on the bogs, which are more or less numerous in the mountainous region.

Senjo-ga-hara is a plain just above Lake Chujenji, on the way to Yumoto. It is nearly circular, about a mile in diameter, and surrounded by high mountains. It is a typical bog, and on it will be found a characteristic vegetation. One of the prominent plants of this area is the wild Hanashōbu (Fig. 18). In Hokkaido, a few miles north of Sapporo, there is a bog-like area which extends for a distance of several miles, and widely scattered over this are large quantities of this iris.

The wild plant usually has rather short, narrow leaves, and a small flower produced on a medium size flower stalk. In more fertile soil, the plant may be as much as three feet in height. The flower is five to six inches in diameter, and the usual color is reddish purple. Color variations, however, may readily be collected. Sometimes the color between the veins has faded out so that the more deeply colored veins are prominent. Pale color forms, some almost white, may also be collected and, in the vicinity of Morioka, very good blue-purple flower types may be observed. Undoubtedly there is a great deal of variation in the wild plant in different sections of Japan, and it is quite possible that those who collected the plants a century or more ago from such points as Kyushu, Tosa, Asaka Lake, and other places, obtained quite different natural types, which served as a starting-point for the production of the highly specialized cultivated varieties.

The botanical name generally accepted for Hanashōbu at the present time is *Iris kaempferi,* which Siebold used in 1856, although the first detailed description was made by Lemaire in 1858 and published in L'Illustration Horticole, Vol. 5, and illustrated by colored Plate 157. The name *I. laevigata* has also been applied to this iris and Dr. Manabu Miyoshi, whose book deals entirely with

FIG. 18. Senjo-ga-hara. The natural habitat of wild Hanashōbu, on the plain above Lake Chuzenji.

Hanashōbu, has entitled it "*Iris laevigata* Fisch." This name, however, properly belongs to an entirely different iris, known to the Japanese as Kakitsubata.

Recent investigations indicate that Thunberg collected Hanashōbu in Japan on his visit in 1776–1777, and listed this plant under the name of *Iris graminea* in his "Flora Japonica," pub-

lished in 1784. In 1794 he published "Botanical Observations on the Flora Japonica" in Vol. 2 of the Transactions of the Linnean Society. In this work he lists Hanashōbu under the name of *I. ensata,* evidently recognizing the fact that the plant differs in essential points from the *I. graminea* of Europe.

Dr. G. Koidzumi, in the Tokyo Botanic Magazine, Vol. 39, p. 300, 1925, uses the specific name *ensata* for Hanashōbu and, more recently, Dr. Bungo Miyazawa, in his paper published in the Bulletin of the Miyazaki College of Agriculture and Forestry in 1929, has agreed with Dr. Koidzumi's identification. Both these botanists are thoroughly familiar with the wild Hanashōbu in Japan and have examined the original specimen of Thunberg found in the herbarium at Upsala, Sweden.

**Kakitsubata.**—Kakitsubata (*Iris laevigata* Fisch.) is a very common cultivated plant in Japan and doubtless has been in cultivation there for many centuries. It also doubtless occurs as a wild plant in several localities. It is thus recorded as occurring in some sections of the island of Kyushu, a few places not far from Kyoto, and near the northern end of the main island at Hachinoe. On the island of Hokkaido it grows wild on the plain of Horomui, and seems to be more common as a wild plant in points further north.

There are several varieties of this iris, some of which have single flowers, while others have the standards enlarged and colored in the same way as the falls. The wild species has very typical blue-purple flowers, but in cultivation there are white flower varieties and a variety with the white falls more or less spotted with blue. The latter is known as *Iris albo-purpurea.* In the famous paintings of two or three centuries ago, this is the iris that is commonly represented. It is interesting, too, that this plant is very common in the temple gardens, especially in the vicinity of Kyoto (Fig. 19). Most of the landscape gardens in that vicinity have at least a small clump of Kakitsubata somewhere on the grounds (Fig. 20). Occasionally rather large plantings may be observed as, for example at Ume-no-miya and Heian Jingu, Kyoto. In both these places most of the plants are the single blue-purple flower type, but at both places there are a few white flower plants mixed in, and also a variety with good red-purple flowers.

**Flower Arrangement.**—At the present time, Kakitsubata is a favorite plant for use in Flower Arrangement, an art which occupies a very prominent place in the activities of the Japanese

FIG. 19. Ume-no-miya, Kyoto. A planting of Kakitsubata (*Iris laevigata*) at the edge of the pond of the temple grounds. Courtesy of Dr. T. Hemmi, Kyoto Imperial University.

Fig. 20. Kakitsubata in the private garden of Mr. Fujita, Kyoto. Futaba Photo Co., Kobe.

woman. Various types of flowers and plants of the four seasons are used and, in April and May, iris occupies a very prominent place. Kakitsubata is much more desirable for this purpose than Hanashōbu, since it lends itself to much more varied treatments, lacking the stiffness and rigidity of the latter. It is extensively grown in the region about Tokyo in order to supply the students of Flower Arrangement with material. As a matter of fact, several acres, in more or less scattered small plots, are devoted to this purpose, and every day the budded stems, together with the leaves, are brought into the general market for distribution.

One of the features of Flower Arrangement is the desirability of using plants somewhat out of season. An attempt is made, in part at least, to provide a particular kind of plant a few days or a few weeks before it normally flowers, and this necessitates the forcing of such material for use. Consequently, Kakitsubata and Hanashōbu are brought into flower several days and even weeks earlier than the normal blooming time in order to provide the necessary material for the classes in Flower Arrangement. (Fig. 21).

Part of the forcing is done by merely providing protection for the plants against the wind and cold by means of straw mats or bamboo fences. The water covering the roots cools down on exposure to the air and is then drawn off, being replenished by fresh warmer water from the ground beneath, and in this way the temperature of the soil and water in which the plants are growing is raised. In some places the water may be artificially heated and applied to the beds; very rarely are the plants grown under glass.

The forcing of Hanashōbu is carried out in practically the same way, comparatively large areas being given over to this in some sections (Fig. 22). It is also possible to select earlier blooming varieties such as Hatsushimo, which comes into flower several days ahead of the other types. This single white flower variety is highly prized for use in the Flower Arrangement.

**Iris orientalis.**—Thunberg originally described this plant from specimens collected in Japan. It is one of the native species, and is particularly abundant on the plain of Senjo-ga-hara, a short distance above Nikko. The flowers are much smaller and lighter blue in color as compared with the garden form commonly known as Blue King. In front of the homes along the shore of Lake Chuzenji this iris is quite common and, in addition to the blue

FIG. 21. Flower Arrangement. An arrangement of Kakitsubata on the left, and Hanashōbu on the right.

flower type, there are many plants which have a white flower, more or less resembling the variety known as Snow Queen. Various cultivated forms may also be found in some of the gardens. Yoshino-yen at Yotsugi has quite a large number of plants more or less resembling Emperor.

The species *Iris sibirica* has also been introduced into Japan and doubtless hybrids between it and *I. orientalis* are to be found—in fact, some of the Japanese botanists make *I. orientalis* merely a variety of *I. sibirica*.

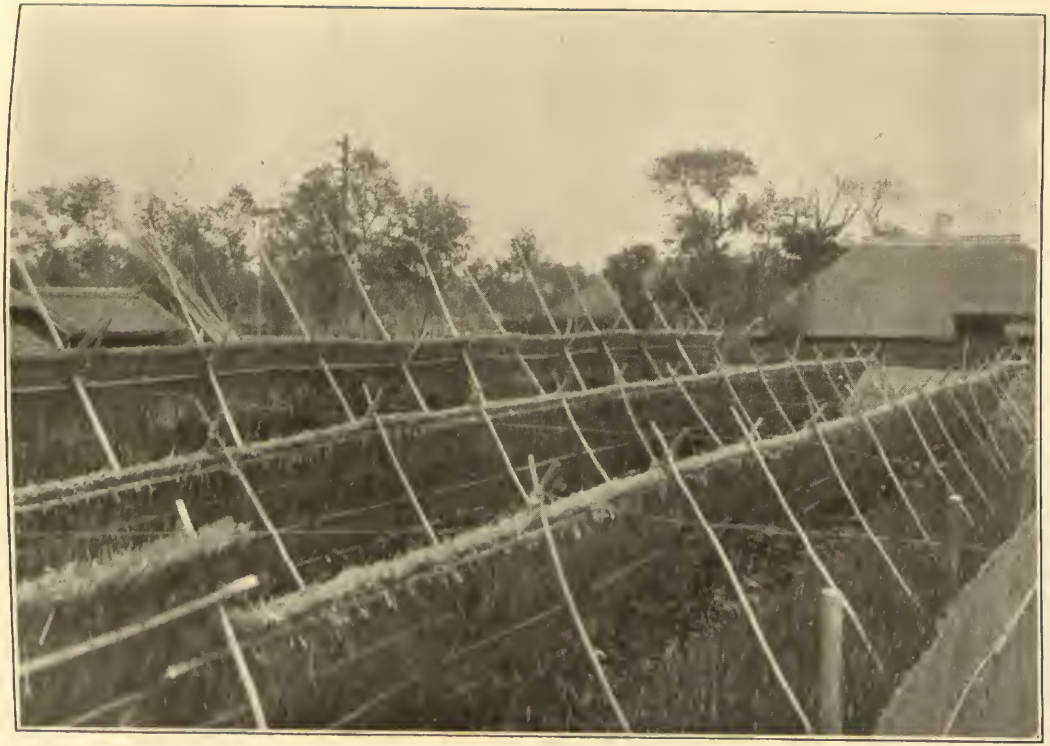

Fig. 11. Forcing Hanashōbu. The protective fences of straw matting and bamboo are shown, together with the budded iris in the lower right hand side. Back of the iris are calla lilies.

**Iris setosa.**—This species occurs as a wild plant in different parts of Japan. It is rarely observed as a cultivated form, but may be seen at the botanic gardens at Tokyo, Nikko, Sapporo, and other places. As a wild plant it is rather common on the plain of Horomui in Hokkaido.

This species is interesting as being distributed in northeastern Asia and the northwestern coast of North America. In Japan it is the rather large form of plant which is found.

**Iris rossii.**—This is a small iris, with delicate, slender leaves and light blue-purple flowers borne on slender flower stalks. It is widely distributed in Korea and other parts of eastern Asia, and occurs as a native plant in several places in southwestern Japan. It is not a particularly valuable iris as a cultivated plant. It is of special interest, however, from the fact that the Japanese Government has preserved some of its habitats as natural monuments. A law has been enacted for preserving historic, scenic and natural monuments and, among the latter, are included districts for the preservation of the original flora and fauna of Japan. According to the law, any natural object, for example, a primeval forest, alpine vegetation, the habitat of an animal, a valley, a cave, or even a single tree or rock, may be preserved. In conformity with the law, some of the most famous individual trees of Japan are protected. The boundaries of natural distribution of several remarkable Japanese plants are thus preserved. One of the most familiar ones is *Rosa rugosa,* a beautiful wild rose with fragrant flowers, common to the seashores of northern Japan. It becomes rare toward the south, and one of its natural habitats in the southern region has been preserved.

**Iris minuta.**—This small iris is known only from Japan, but it is related to another species, *Iris henryi,* found in China. *I. minuta* is not at all common and is known almost entirely as a cultivated plant. It is a small species with narrow, grass-like leaves and a yellow flower borne on a slender stalk.

**Iris gracilipes.**—This slender little species grows wild in the moist woodlands in different parts of Japan. As a wild plant it appears to be confined to that country. It also may be seen as a cultivated plant, and is commonly utilized in Bonsai, since it makes a beautiful tray decoration when in leaf, as well as when in flower. This iris has proved to be very valuable to western gardens, especially for growing in a shady place in the rock garden.

FIG. 23. *Iris japonica.* Flowering plants in the grounds of the Imperial Hotel, Tokyo.

Fig. 24. *Iris tectorum*. The roof iris on the ridge of the thatched roof of a farmer's house. The front yard is occupied with barley and vegetables.

**Iris japonica.**—This native species is commonly seen in the parks of Tokyo, rather large areas in the shade of the trees being covered with it. The leaves are rather broad and evergreen, and it spreads by its creeping rootstock. The flower stalk branches repeatedly, producing a large number of flowers in succession. The flowers at a short distance appear to be white; they are, however, very slightly tinged with lavender, with deeper spots of bluish purple surrounding the central crest, the latter being dotted with yellow. Although each flower is rather short-lived, lasting only part of a day, the succession of flowers on a plant makes a fine display over a period of three to four weeks (Fig. 23).

**Iris tectorum.**—The Roof Iris derives its name from the fact that it is commonly found on the ridges of thatched roofs of Japanese homes and other buildings (Fig. 24). It is recorded as native to certain parts of China, but it must have been introduced into Japan many centuries ago.

This iris is not widely distributed in Japan. In the vicinity of Hodogaya, near Yokohama, there are a great many buildings with thatched roofs and this iris growing on the ridges. In most of the villages in that general region the thatched roofs are likely to bear this iris. Northwest of Tokyo, near Kiriu, many of the houses and buildings in the small villages have thatched roofs, with the iris. The custom, however, is passing out in this region, due to the substitution of tin or galvanized iron as a protection against the entrance of water.

It is nearly always the blue-purple variety which is found. Some of the people of the villages speak of the white flower type, but it is practically unknown on the thatched roofs.

**Introduced Iris.**—During the past few decades, a number of iris from other parts of the world have been brought into Japan. Several varieties of the tall bearded iris may be found in a number of private gardens. This group is also represented by one or more varieties in most of the botanic gardens. For the most part, the varieties are the older and inferior ones, and they do not do credit to this particular group. Apparently, none of the varieties recently developed in Europe and America have found their way as yet into Japan.

Large quantities of Spanish, Dutch, and English iris are grown, and all are used quite extensively in the cut flower trade. They seem to do very well.

One of the most obvious things was the occurrence of the Yellow Flag of Europe (*Iris pseudacorus*). Evidently this plant has been in Japan for a good many years and has perfectly adapted itself. The conditions under which cultivated Hanashōbu are grown seem quite suited to this iris and, due to its abundant seed production, it has really become a weed. Consequently, it is more or less mixed in all of the large plantings of Hanashōbu, particularly in the newer ones. The plant resembles, in its vegetative condition, a rather vigorous growing Hanashōbu plant, and in this condition is not readily distinguished from it. Consequently, it may be dug up and distributed far and wide.

Japan has supplied to the Western gardens several very fine iris. There are three members of the crested iris group, *Iris gracilipes, I. tectorum,* and *I. japonica,* which are very useful plants; the two former are excellent for our rock gardens. *I. japonica* is not sufficiently hardy for the Eastern United States, but seems to thrive very well in California.

The value of the Siberian group of iris depends in large part on *Iris orientalis,* which has been hybridized with the European species, *I. sibirica.* There are many varieties belonging to this general group, and most of them are excellent garden plants.

For some reason, Kakitsubata (*Iris laevigata*) has not been widely grown in Europe or America. This is quite surprising, because of the many excellent qualities of this iris. The common blue-purple flower type is a splendid plant and makes a fine showing when growing by the water's edge.

Hanashōbu, of course, is the greatest iris contribution of Japan. Hundreds of varieties have been developed in the course of many decades, and most of them are well adapted to the Western garden. They seem to thrive very readily in the ordinary garden soil, but do better with a more liberal supply of water in the weeks preceding the flower period. This iris has an additional value from the fact that it blooms after most of the other types, and thus prolongs the iris season for a month to six weeks.

Brooklyn Botanic Garden.

## VARIETAL NOTES FROM WASHINGTON, D. C.

By Chas. E. F. Gersdorff[1]

Impressario (Morrison). This tall bearded Iris is most noteworthy for its grace, size and substance. Moderate in growth, it does not soon crowd other plants near it. Flowers are well poised, on branching stems, branching below the center and widely, the stems flexuous to the extent of adding grace, a well grown clump lasting in bloom for two weeks. Even in the trying season just closed, its bloom stalks were produced in the same degree as in favorable seasons. The flower is long, compact and well balanced, in color a pink toned light blended bicolor (S9L).

Margery (Dean). This tall bearded Iris, if for no other reason, should be in every garden for its strong, sweet grapy fragrance, which permeates the atmosphere all about the garden, and, when cut, delightfully perfumes the air of the living room. The blooms though they are held away from the stem and are of good form and size, and substances, are a bit too heavy for the stalks which bend somewhat with their weight, and were this fault obviated and the blooms more widely and lower branched, this Iris would be hard to beat. Yet with the faults noted, I am very fond of it for its fine fragrance. Its blooming habit, and growth are good—not at all weedy and it too performed well in the trying season just closed. In color a rich medium blue bicolor (B3M).

Several varieties which might well have been lost in the breeders' gardens are Mme. Janiaud, a wishy-washy color; Fedora, not as good as the old Apollon.

Mme. Durrand, though always slow in growth, has bloomed regularly with me each season since being planted some ten years ago. It seems to be quite at home planted close to a brick wall with southern exposure, though lightly shaded with the overhanging branches of a nearby Lilac. The plant has never grown beyond a small sized clump, and though the stalks generally consist of but one or two, these are all that can be desired. The flowers are real gems. One variety I would not be without.

[1] It is hoped that this feature may be continued by Mr. Gersdorff and others. Ed.

The first variety to bloom for me each season, excepting dwarfs, is PALCENG, my own, noteworthy only for its earliness and fragrance, otherwise nothing to brag about, which is closely followed and even almost matched at times by the old Kochi, than which nothing is more effective for low dark masses. That gem Soledad comes closely afterward. This last one should displace all the older yellow intermediates; it is rich when used in combination with Kochi.

The best pale blue, close to what we know as sky-blue is Horizon (Morrison); tall, gracefully poised blooms, fine growth, fine form and substance, large, clear color, and unsurpassed by any other Iris from freedom of bloom. A well krown clump will be a mass of bloom stalks, such a mass as to excite the wonder of the beholder that so many can be produced by so relatively small a clump, yet exist as a clump thereafter.

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## TRIBULATIONS AND THOUGHTS OF A NOVICE

BY E. N. S. RINGUEBERG, MD.

For three years now I have attempted to get together a collection of iris that without being unduly large, should be fairly comprehensive and representative of the entire range of color and form to be found in the genus Iris without placing undue emphasis on any variety, group, or height or season of bloom, and by confining myself to such varieties as could be grown in this climate without special care. The start was made during the transition period when the old standard varieties which represented the accretion of years were still being extensively grown and the newer introductions were largely high priced and mostly in the trial stage as to reliability of performance, at least so far as the general iris buying public was concerned. I commenced with a number of the then so-called standard varieties whose worth had supposedly been demonstrated by continued propagation and dissemination through a period of some years though the fact was recognized that quite a number were being displaced by some of the more recent introductions, a number of which might later prove to be of more or less permanent value. This was done primarily for the reason that it was, unfortunately, impossible for me to go to see any of the larger collections but also because without some ocular first-hand knowledge of some

of them, it would not be possible to understand the references and comparisons which were and are being made in the literature on the subject. Thus a larger number were purchased than would have been the case if they had been selected by sight. The majority of these would inevitably be discarded in the course of time but, as they were mostly cheap, it did not matter so much, and that item is largely offset by the value of the experience gained through the personal contact and a more exact appraisal of relative values.

Of some 400 odd varieties that are now growing in my gardens possibly half will be retained permanently. Of course I realize that the hardest part of the job is ahead of me, the discarding of superfluous varieties; it is one thing to introduce a certain iris into one's collection, and quite another to throw it out bodily. A list of fifty of the older standard varieties was compiled and published in the January, 1928, BULLETIN, none of which had been introduced subsequent to 1920. Ten of the number were rated below 75 in the last symposium but were still being grown by many as a review of the number of votes they received, as published in the April, 1929, BULLETIN, conclusively showed. But changes in values and popularity are rapidly taking place so that now, after a lapse of only three years, even such an iris as Mrs. Horace Darwin, once considered indispensable in every well regulated iris garden, although still grown by many, is hard to find in current catalogues. Even the similar Fenella which was supposed, according to the rating, to displace it never was disseminated enough to get more than about half as many votes before it along with Mrs. H. Darwin was submerged by the oncoming flood of new whites. Some of the older varieties were found to have only the quality of thrifty growth and prodigious increase as a reason for their perpetuation, while others had only slight differences from some already introduced, and many are now known only by name and the fact that they are preserved in plantings of chiefly historical interest.

Some of the more hardy and prolific varieties may be of use to hybridizers in cross breeding to reintroduce the quality of sturdy growth and freedom of bloom into strains in which those qualities had unfortunately been lost sight of in the effort to obtain height, size and specimen stalks. Commenting on that phase of the subject to a correspondent a couple of years ago, I said "I think we are beginning to pay the penalty for intensive breeding in the mad struggle after size and height without due regard to constitu-

tion that the breeders of cattle are paying in the case of that milk-and-butter producing piece of mechanism commonly known as a blue ribbon prize winning Jersey. Turn the blooded iris and the blooded cow out to shift for themselves on a prairie and the result will be the same in either case." I confidently look forward to the time in the future when some of the marvelous highly rated, but tender, creations of the past and present day, will join the rapidly increasing list of discards through their being displaced by identical (or nearly so) introductions possessing the desirable qualities of hardiness and floriferousness. The duplication of form and color ordinarily to be decried would, in such a case, be welcomed and amply justified. Let us hope that some of the improvements in hardiness that are being introduced to take the place of some old favorites will be found upon trial to come up to expectations.

Isoline, when it will bloom, has always been a favorite of mine, and Rhea is its almost exact counterpart in size, form of bloom, and carriage of stalk and color of the falls, but the standards are enough darker to form a distinctive feature. So I am wondering whether, after all, I will discard Isolene or leave it in some out of the way place to blossom when it sees fit and fill the vacated place in the garden by Rhea.

When commencing my quest I resolved to approach the color problem in as nearly a neutral attitude as possible, as I realized that color preferences are partly due to individual temperament, which in turn would be largely influenced by inherited taste that originally probably had a geographic or, what would amount in the ultimate analysis to the same thing, a racial origin. There is no doubt but what some such reason accounts for the likes and dislikes that are manifested in regard to the variegatas. That they are liked by some is an indisputable fact for otherwise there would not be so many of them. I think some interesting side lights would be revealed could we trace the genealogy of the persons having decided phobias on the question. I even went so far as to include an undue proportion of typical variegatas, that *bete noire* of so many, in an effort to ascertain the reason for the feeling of distaste they seem to arouse in some people. They certainly are not pleasing when massed, as an experience this year devealed when some 20 odd typical variegatas blossomed in one plot where they had been placed for convenient comparison, preparatory to cutting out those too nearly alike in garden effect, for discard. Many of them have a

rather bold and bizarre effect and as such require to be handled with care individually, probably planted by themselves where they may be allowed to dominate their surroundings as they seem inclined. As Mrs. Hires remarked in a recent bulletin when speaking of Gay Hussar when she suggests that "planted near yews the effect would be stunning or it might be planted near a purple leaved plum." One reason for their lack of popularity lies in the fact that they do not harmonize readily with other colors in the iris garden. The yellow of the stands would blend in many places where the usual red-brown of the falls would not. The fact that a certain variegata considered individually is pleasing when purchased, but when taken home and planted it refuses to associate with its neighbors is rather disconcerting and aggravating, and when a repetition of that behavior, with each succeeding variety of the tribe is observed, gradually an active dislike is acquired where none had originally existed. Mrs. Kellogg recently summed it up to me in a nut shell, "These variegatas are queer things—or I am queer; I like yellow and I like brown, but I can't seem to like them combined in an iris. The clear cut iris are striking, but somehow I have trouble in combining them in the garden picture." The atypical variegatas where the colors are softened by blending generally in both stands and falls, do not present the same difficulty. As for example Mrs. H. F. Bowles, Dora Longdon, or Dusky Maid.

Of course our gardens would be much the poorer in color without some variegatas, and so my advice would be to select a few variegatas with care and then watch your step as to where you plant them.

High priced varieties were at first avoided unless their worth seemed assured by the report of a number of years. Some of them, however, have been added from time to time till now quite a few are represented in the collection.

The kaleidoscopic changes in colors and their combinations have gone on with increasing and bewildering rapidity since my starting in the game and the end of the transformation scene is not yet in sight. And the ground under foot is shifting so quickly that it is difficult to keep one's equilibrium. Till now with so many subtle colors inextricably blended in one iris that it well-nigh defies any description that will do it justice and convey any adequate idea of the reality, it is often impossible to say just which color predominates in an attempt at classification. Even such a clever

juggler in colors as Mr. Schreiner cannot be certain when he assigns it to one division that it will stay put; some one is sure to come along and yank it out and place it in another niche. I think that eventually he will be inclined to dump them into the scrap basket that I once offered him as a convenient receptacle for all such.

Even with the many gradations of clear colors, who shall determine the point when a white iris ceases to be classed as white and must be classed along with the yellows? Or just when a variety with light blue tinted standards and darker blue falls ceases to be a blue bi-color and becomes an amoena. A mere change in location from part shade to full sunlight might be a deciding factor in such a case.

If the time—and cash—were at my disposal I should like to try group plantings of the varieties that have been, or are being, introduced with the claim that they are superior to some of the old favorites; to settle the question, to my own satisfaction at least, as to which were entitled to that distinction. Such plantings should be left growing side by side for three or four years not only to determine those points, but also what is of more importance from the garden point of view, their reliability, hardiness and freedom of bloom. Lacking these qualities a variety identical in coloring that was taller and larger would be absolutely worthless as a garden substitute, though exhibitors might care to grow it for the sake of the occasional specimen stalk that could be secured for exhibition purposes.

When an iris has achieved an established reputation and become a universal favorite, there are many aspirants that will try to "hitch their wagon to a star," that are put forward to dispute its claim to preeminence in regard to color, or size, or height, or reliability, or all of them. . What bothers me is, how, in lack of personal observation, to judge the validity of the comparisons that are made in regard to certain iris with a claim that they are identical in color but superior in size or height, or are on the order of but superior to, some favorite variety.

For instance there is Archeveque; we find some such claims in relation to Acheron, His Eminence, Euphemia, Chianti, R. W. Wallace, Mentor and Garnet. Then there is Opera which is similar to but better than Caprice. But there is a blare of trumpets announcing the introductions of Homer C., followed by San Luis Rey, both of which are claimed to be decided improvements over

Opera but no comments as yet as to which is the better of the two,—comparisons probably not being considered in good taste. So I am wondering. The only clue is that Mr. Schreiner leaves Homer C. (24) still in his trial list, while San Luis Rey (28) is placed among the elect on the map. There is, however, the suggestion that the latter needs protection and then he announces that after all "Opera is an unbeatable iris."

There are also quite a few that are spoken of as being similar to Alcazar, such as Canopus, Lady Bountiful, Orion and half a dozen others I have listed. Then comes a question as to just what the person making the comparison had in mind, whether it was an actual close identity of type, form and color, as exists between Alcazar and Canopus or a general superficial color effect.

There are also claimed improvements over Eduord Michele in Zamora by Williamson which is stated to be "almost identical in color but more vigorous and floriferous," and Jackrose by Andrews who makes substantially the same claims as regards growth, etc., but in addition claims an "improvement in color" which he evidenly thinks increases its value. Whether "gilding the lily" really makes for its improvement remains to be seen. Imperator is also spoken of as being similar in color and also Crimson Glow. On the other hand what shall be the decision when Mrs. Pattison tells us that "Solferino far surpasses Aphrodite" and "has the same substance" and then to find on picking up Murrell's catalogue, that "In Solferino the flowers are flimsy in texture" and "not equal to Aphrodite." Of course we know that the average iris in spite of its hardiness is somewhat temperamental in regard to its demands as to environment, soil, etc., and such may have been the case in the incident cited above. One sometimes has reason to know that certain comparisons have been loosely and casually made where the varieties in question have been under observation, as per example, one catalogue states that "Morning Splendor produces a similar but brighter effect than Ambassadeur" and again that "Opera is similar in effect to Morning Splendor which, however, is superior in every way."

As a rule there are no pure white iris species, their flowers always carry some tint however slight. An apparent exception is the *I. albispiritus* recently described by Dr. J. K. Small from the Mississippi Delta. Albino forms, however, are known to occur in

most species but tend to disappear if not artificially propagated by division. That is why until recently there were relatively few white varieties in commerce. We will leave out of account such varieties as Florentina and albicans that have been propagated for an indefinitely long period of time for other purposes than garden use.

Apparently the first white irises propagated for the garden were Mary Minanelle and Innocenza attributed to Lemon 1854. Then after an interval of some thirty odd years Foster introduced Mrs. Horace Darwin in 1888 followed by Mrs. George Darwin, 1895. Then after another long interval came Verdier's La Niege, 1912, Kashmir White by Foster, 1913, White Knight (Saunders 1916), White Queen (Geylenkik 1918), and Fenella (Morrison 1919), in all of which there is no account of origin, though from all appearances both Mrs. George Darwin and Fenella have stigmata which would tend to show that they trace their origin back to Mrs. Horace Darwin, or at lease to a common ancestry. Of these only White Queen seems to be much in evidence; White Knight is good but not very prolific; La Niege apparently hardy, and though temperamental as to location and in spite of the fact of the handicap of small size, has always been treasured on account of its fine form, clean color and good texture. Kashmir White, although fine, is too tender to bother with now that there are so many fine whites. All of the above are represented in my garden except Mary Minanelle which appears to have dropped out of sight.

The year 1920 seems to have been the turning point for the introductions of new whites; for we find listed Taj Mahal and Athene by Miss Sturtevant, Balaruc from Denis, and Samite and Mystic from Bliss, all good. The ancestry of all is given except for the last one and in only Balaruc is any white parentage discoverable. I have grown all of them except Samite which was purchased from a supposedly reliable dealer but upon blossoming turned out to be a bicolor with reddish veined falls. So we have to accept it on Mr. Burchfield's recommendation. He stated in his last catalogue that he liked it better than Micheline Charriere. The only others that have blossomed for me are Mrs. Nageli (22), Milky Way (23), Cygnet (23) and Zada (26) all of which are good except Mrs. Nageli which makes a good pure white low mass but lacks form and substance. Zada may supplant White Knight as it is much taller, exceptionally hardy and free in spite of having

some Ricardi admixture. Snow White, Garden White, Chartier, Alabaster and the reputedly not quite hardy Micheline Charriere, Theseus and Kashmiriana are still to blossom, as are a number of so-called whites, like Silver Queen, Old Ivory and Moonlight of which no attempt at classification will be made till they bloom.

It is to be noted that in the small number of instances where the pedigrees are published only about half give any indication of one or more white parents being involved in their production, showing that an unforeseen and unexpected albino result had been obtained. It is to be expected that with the hundreds of thousands of seedlings now being raised every year such accidental sports will be of more common occurrence. Marked variations as a result of crossing divergent types will be more frequently seen than in crosses of similar color types and the result is liable to be in some instances either an atavistic form, the probable causes for the occurrence of which I pointed out in an article published in 1884, or else a widely aberrant or abnormal color mutation which occasionally might take the form of a case of albinism, which is caused by a partial or total suppression of the color forming pigment cells. It would be interesting to experiment by crossing two distinct strains of irises, one or both of which were white, and note in the progeny if the marking and colors of some colored ancestor would not occasionally tend to reappear.

Such a result Darwin cited to be the case in many instances both in plants and animals. Particularly in pigeons that had been bred true to color for many generations. He found that by crossing distinct breeds the resultant offspring would often revert back to the blue wing-bars characteristic of their feral stock when no such markings were present in either parent. Reversions seem to be more easily produced in varieties that are not many generations removed from their ancestral stock, as Dykes remarks in the case of Black Prince where self-fertilization gave proof of its variegata ancestry. But, on the other hand, he asserts that self-fertilized albino varieties generally come true to color. That dictum would probably hold good of true albinos, *i.e.*, where the elimination of pigment had been absolute, but not of the so-called white where there is a light flush of color left on the standards, falls or style branches. For it is in such cases that we would occasionally expect to find reversion. The chances of obtaining a white iris where both the seed and pollen parents were white would seem to be good, and

it must have been tried by hybridizers, but if so they have not usually recorded either the success, or, what is of equal importance, their failure.

I have only found two exceptions, Arlette (La Niege × White Queen) and Sea Foam (Bridesmaid DB × Sophronia). In looking over the list of the more prominent whites in commerce I found eight where the pedigree was given, where evidently an unsuspected albino result was obtained, and five in which one parent was white as against some twenty odd where no parentage is assigned, the majority of which were probably accidental sports for certainly there would be no good reason for not recording the parentage if it was definitely known. Those figures may need some revision but the proportion will probably hold good. Atavism is a subject of peculiar interest and I would like to know if any breeders have observed any such cases. The trouble is that most of the breeders are more interested in producing flowers that present a wide divergence from existing types both in form and color, and reversions back to a more primitive type would immediately be discarded and the significance go unnoticed.

Due to the evolutionary forces being sped up as it were through man's intervention in artificial selection we naturally would expect to encounter along with the progressive or evolutionary advances occasional manifestations of a regressive or atavistic nature. Atavism, although a very important factor in the preservation of species, receives but little of the recognition it deserves as such because its action in nature is not superficially apparent enough to command attention and observation, and so, though ancient in name as well as in existence it may still, as far as practicable observation goes, be considered in its major and readily recognizable manifestations as a resultant of artificial selection, being a concomitant upon the notable unstability of forms so produced; as it rarely, if ever, occurs in appreciable degree in organisms which have been uninfluenced by man's fostering care.

We, as it were, magnify the natural tendency towards variability. We also at the same time, through organic correlation, increase its coordinate force, atavism, and by this means make it apparent to the most superficial observation, and thus we are enabled, as has been done in the case of artificially exaggerated variability, to reason by analogy of its existence and of its function and mode of action there under natural conditions. In domesticated

varieties the nearest strongly fixed point, notwithstanding the number of changes they may have undergone, or the length of time they have existed as such, is generally the ancestral feral stock which had become stable by reason of the prepotency of natural selection.

This is especially manifest in the case of color for reasons to be noted further on. An arresting of divergence does not necessitate the loss of power to develop to maturity but will often produce what might be termed premature development. Therefore the varietal evolution being arrested by certain disturbing influences, certain varietal germs are aborted, and the product is a preparental form or reversion to one or more varietal ancestral characteristics.

Under domestication color is more subject to change than any other feature. The principal reasons for this being; first, that it does not require for its production a correlative diversification of adjacent features (any organic change of form necessarily causes some modification of the surrounding tissues and adjoining parts thus requiring more time, energy, and force than a mere slight change of the color secreting tissue); second, as it is comparatively so easily affected, it has been subject to more of the passing whims and fancies of mankind than any other part, especially as it does not require the patience necessary to produce a change of form or feature.

Therefore, color, from already being one of the most unstable characters, man has rendered still more so by the comparatively rapid changes that he has compelled it to undergo under the dictation of his selective inclination. Being so susceptible to variation from the parental marking and coloring, it is also the part in which we should expect atavism to occur most frequently as is the fact.[1]

The foregoing is from my article dealing with the subject primarily on embryological grounds, but we can reason by analogy the application of the same laws to plants as well.

With so many problems in regard to the genealogy and interrelationship of the iris still to be solved, it was unfortunate that a man with so comprehensive a grasp of the whole subject as Dykes had should be cut off just as new light was being thrown upon the laws of inheritance by the as yet not fully understood applications of the discovery of Mendel.[2] From the nature of the work we do

[1] Atavism considered as a conservative agent in a state of nature. E. N. S. Ringueberg, American Naturalist, May, 1884.

[2] Mendelian ratios rarely seem applicable in irises. Ed.

not find many references to the subject in his Handbook, but in his recently collected writings his interest in the subject is more in evidence as shown by the references to his experimental work along that line.

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## IRIS TINGITANA. *GRENIER AND GODRON*

F. Denis (Translated by S. M. Mitchell)

In the herbarium of the Museum of Paris there are some specimens of an iris gathered in Morocco by Desfontaines which he had mistakenly identified as *Iris Xiphium.* Grenier and Godron, who examined them later, recognized them as a very distinct species, which they classed under the name of *Iris Fontanesii.* The late Mr. Dykes, in his Genus Iris, after having himself examined the specimens of Desfontaines at the Museum of Paris, referred them to Baker's *Iris Tingitana.*

Maire and Jahandiez, the explorers of Morocco, rightly restored this name of Fontanesii, not to apply it to a botanical species but to a very distinct race of *Iris Tingitana* which is of great interest to iris lovers.

There follows an extract from a letter received from M. Maire, professor of botany of the Faculty of Alger, June 10, 1927:

"*Iris Tingitana. Variety Eu-Tingitana.* Flowers blue. Growing in dense colonies, always with very wide foliage. Found in clay soil exclusively, especially in moist places. This plant is found in Morocco from Tangier to Sebou.

"*Iris Tingitana. Variety Fontanesii.* Flowers violet purple. Growing in isolated tufts or in sparse groups. Grows in well-drained soils containing lime or in dry sandy situations. Foliage distinctly narrower than that of the Tingitana type. Found in Morocco from south of Sebou to the Haouz; in the middle and great Atlas and western Algeria."

I have been growing for some years along with *Iris Tingitana* some plants of *Iris Fontanesii* which were brought me from the great Atlas of Morocco by M. Emile Jahandiez. From the point of view of horticulture it has great advantages over *Iris Tingitana.* All who have grown the latter know how irregularly it blooms and that when the flowers do appear they are exposed by their earliness to late winter frosts. *Iris Fontanesii* is distinctly later; it blooms

at the same time as the Dutch Irises, which can be said to be hardy in most climates. The flower stem attains, on the average, a height of 90 centimeters and generally carries 2 flowers, sometimes 3, which bloom in succession. The standards are violet purple, the falls are of a very pretty color rarely seen in iris. In checking it with Répertoire des Couleurs of Oberthur and Dautenay, one sees that the shade which is closest to it is that of dark royal blue, tone no. 2. Besides its very easy flowering, this iris has a great advantage, that of being rapidly increased by its numerous bulblets. I repeat, *Iris Fontanesii* will be a fine acquisition for lovers of bulbous iris.

Tamaris, October, 1928. F. Denis

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## TID-BITS 28TH

Even in light of the recent announcement of a Policy of Awards the following suggestions are not without value:

There has been much discussion in middle western iris circles concerning the Dykes medal award with the idea in view of placing the award on an orderly, systematic basis calculated to make the award typical of the best in the iris production of the country capable of competing in quality on favorable terms with French and English medal winners.

As the Dykes medal award is a subject of international interest and importance it seems altogether desirable that the award should be made with the greatest possible care and should not be left to a board of directors not in a competent position to make the award months after the blooming season.

The decision of the Iris Society of England to alter the rules governing the award with an invitation to the American Iris Society to take similar action has given impetus to the discussion and it is to be hoped that some system may be worked out in the near future for submission to the members calculated to give the award the standing and attention that it deserves.

To make such an award is a matter of the greatest difficulty because of the great extent of the territory of the United States, the vast number of iris breeders, and the different behavior of irises under varying conditions of climate. This is something for which the directors cannot be blamed as there is nothing they can do about it.

Discussions so far seem to bring out two basic suggestions—one, the establishment of a system of nominating candidates for the award; the other some means of getting the candidates nominated before a judging body whether it be a committee of experienced and expert judges or the board of directors. It seems agreed that the Iris Society made a highly praiseworthy move in extending the eligibility period to three years. It is manifestly impossible to obtain anything like a fair survey of new irises in one season here. The decision of the English organization against a single stem exhibit to be judged in favor of three stems voices an idea frequently expressed here.

There is no practical difficulty in the way of devising a system of nominations so that the judging body will know what it has to judge. A date for the close of nominations might readily be set and published in the bulletins. Nominations might be thrown open to any member of the society, following the decision of the Iris Society, the originator of the iris, however, to be awarded the medal in any case. Nominations might be sent to the registration committee or to a special committee if deemed advisable to name one.

It has also been suggested that any iris seedling awarded an honorable mention should automatically become a candidate for the award. This idea has been suggested as calculated to bring together a typical field from which to select.

Over the question of how to get candidates before a judging body, there is a wide field for discussion and great difficulty in arriving at a practical method of doing so. The most definite suggestion this writer has so far heard advanced would increase the period of eligibility from one to either three or five years and would require that the nominees be sent to a test garden where candidates should be assembled for judging while in bloom.

In this connection, regional elimination competitions have been suggested, candidates to be assembled and grown for judging by regions as laid down by the A. I. S., the winners or winners and second choices, then to be grown in some agreed test garden for final adjudication and award of the medal. Whether any of these suggestions would work out on a practical basis remains to be determined by actual trial.

The subject is worthy of careful consideration and these suggestions are here set down for what they may be worth, if anything.

Dykes medal awards so far place red-toned irises to the front, three of the awards being of this type, Dauntless, Vert Galant, and Député Nomblot, the last being by far the finest of this trio. Two yellows have received the medal, Pluie d'Or and the latest English award, G. P. Baker and one plicata, San Francisco. These are now known here with the exception of G. P. Baker.

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It has been suggested in connection with the assemblage of Dykes medal candidates in test or display gardens that such an arrangement would add greatly to the interest in these gardens, raise their quality and give them an importance they do not now possess as some of them have collections of iris that reflect little credit on the garden or the A. I. S. The real testing of new American varieties is now done by expert commercial growers, which probably results in a better selection of new varieties worthy of introduction than the public gardens.

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A new iris organization has taken the field which bids fair to occupy a prominent and important position in the iris world. This is the Iris Guild of Cincinnati of which Mrs. Silas B. Waters, one of the most competent show judges in the country and well known for her artistic skill in the color arrangement of irises, is president.

Cincinnati is one of the most important iris centers of the country and is particularly notable as being the pioneer center in the United States in the origination of Dominion race seedlings. The pioneers, unfortunately, were kept in the garden of Mr. Wareham and have not been put in commerce. However, the productions of Dr. Wylie McL. Ayres are now coming into public distribution and the superfine quality of Cincinnati irises is apparent. Mrs. Emigholz has also introduced some good ones. Other breeders have fine things in their gardens.

The scope of the Iris Guild as organized seems rather broad and likely to be of great service in advancing the use of the iris in gardens.

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A new iris book by Mr. J. Marion Shull already has started a lot of debate, a sure indication that the author has said something. The title of the new work is a particularly fitting one, "Rainbow Fragments," from the Doubleday, Doran & Co. press. The point

that has caused the debate is Mr. Shull's declaration that iris shows as now held are failures and might better be abandoned.

The writer is quite willing to agree that the iris is not a good exhibition flower for indoor shows under artificial light.

The attempt to establish an exhibition and a garden class in the ratings of the society has not resulted in any differentiation along definite lines and the point scale for exhibition applies equally well to garden value. Dark irises are lost under artificial light to a large extent. The delicate colors are not at their best, the yellows suffer and only the whites approach coming true to color. A few irises with standards of poor color in comparison with the falls or with standards that discolor badly and quickly in sunlight are better on the show table than in the open ground as the deficiency of the standards is not so pronounced, notable examples being Ambassadeur, Bruno and Lent A. Williamson to a certain extent.

Stalk and branching are about the only real points to distinguish between garden and show value, as color cannot be judged except under the open sky. It is a usual practice of judges to carry stalks to doors or windows in judging seedlings in order to discover what the real color of the iris may be.

But granting the deficiencies of the iris as an exhibition flower and that it is utterly worthless as a commercial cut flower, show value and cut flower value being closely related, the iris shows have developed so much interest and are so largely attended that it would be a pity to abandon them. In fact, there isn't a chance that they will be abandoned. The general effect of an iris show even with the untrue color effects that are bound to prevail is one of such beauty that no one would sacrifice it.

An iris show of importance always means that the visitors will see gardens in the neighborhood and there view the irises at their best so that the show serves the purpose of bringing to the attention of gardeners the iris at its best in the garden and the varieties that are most valuable for indoor decoration.

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Airship transportation of irises for shows has become a new feature in getting flowers to shows in good condition since Dr. Berry pioneered in this field last spring by sending specimens of Mauna Loa in bloom from his garden in California to the Chicago flower show.

The crop of American novelties to be introduced this year already offers alluring prospects. Of much interest are the new things originated by D. M. Andrews, offspring of two of his best known seedlings, Candlelight, highest rated iris in the symposium, and the unusually brown toned Amerind. Candlelight in this section has not proved the best of growers and has not produced typical blooms in many gardens. Evidently it needs to become established to do its best. It seems to be a seed parent of great value judging from the reports of Mr. Andrews' new things.

Jacob Sass' fine new white Wambliska and his new very dark Blackamoor are two of the new ones bound to attract attention as well as a possibility of some new pinks, one Rose of Cuba, being reported of particularly fine color tone.

Wauconda, a red violet noted for its carrying power in the garden, the best so far exhibited in this color, has already been introduced but has had little distribution.

Dr. Loomis has three new ones which Mrs. Pattison is to introduce, Sachem, Erebian, and Chromylla. Sachem is a King Tut type done in Dominion style, a beautifully brilliant iris. Erebian is a very dark red purple of fine form, texture and beautifully branched stem given an Honorable Mention at the Freeport show. Chromylla is a large flowered yellow of height and superfine texture, a good yellow tone not quite as deep as Pluie d'Or but with larger flowers. It looks like a valuable addition to the growing list of yellows.

There are reports of one new iris, the originator and name of which are not yet revealed, which is said to be a greatly improved Souvenir de Loetitia Michaud. This would seem to be gilding the lily as Loetitia when well grown is a magnificent iris.

A number of other superfine American seedlings have had mention in these columns but how many of them will be sufficiently propagated for introduction is uncertain.

Suffice it to say, that the American output is making it increasingly harder for European introductions to command the attention they formerly held. The Wallace set of Dominion race seedlings so highly advertised abroad should bloom in this country this year so that they may be compared with former Dominions and with the American Dominion race output.

There is much interest in comparing the English Palaemon which Wallace claims to be the best dark blue yet produced with

Blue Velvet the best dark blue purple in the Dominion strain shown here.

A few of these Wallace Dominions have bloomed here but not typically.

* * * * * *

Here in Massachusetts an unusually early season has given us a glimpse of some of the Novelties already and I was greatly impressed with my first glimpse of Easter Morn, a warm white which as a single stalk seemed even finer than a nearby established planting of Purissima. In habit and form, etc., there is marked similarity but for the garden I prefer Easter Morn if it proves as thrifty. Of the new Morrison things, Antrim, Ecstasy, Escamillo (a really worth-while variegata), Festive (of Iris King type), Seville, and Starsong; the last with its soft tints wears extremely well, a real test for a novelty. Unfortunately Rose Dominion (Connell) and Selene, the new white from Tennessee, were not yet in flower. Among the whites, Polar Star (Donahue) is worth watching; there is no doubt as to its quality even though I prefer Easter Morn. In regard to these big whites time only will tell us how successful they will prove in the average, uncared for garden and I am wondering seriously whether the garden value of smaller blooms is not greater than that of the giants.

Among the really lovable smaller things Dione with its bright blue veining to either side of the vivid beard and Gold Stream in cream are always satisfying. Hoarfrost and Elfin Gold, though still smaller in bloom, are two other novelties of charm.

To those who enjoy Glowing Ember, its redder sister Red Ember will prove a joy, as fine a thing as Dauntless though richer, and I am looking forward to seeing Duart (Ayres), another of the selected "reds."

## American Iris Society Test Gardens

### Who and Where They Are—What They Need

**Brooklyn Botanic Garden,** 1000 Washington Ave., Brooklyn, N. Y. Dr. Geo. M. Reed in charge. Test Garden for Beardless Irises making a special study of Japanese varieties. Pests and diseases studied here. New Japanese, New Siberian, Beardless species, Oncocyclus and Regelia varieties required. Communication in regard to Beardless varieties invited.

**California Botanic Garden,** Sawtelle, Calif. Dr. S. S. Berry, 1145 W. Highland Ave., Redlands, Calif., supervising Iris collection. Plants for this garden should be sent in his care. The collection at the Garden is being maintained though no actual test work is being carried on.

**Cornell University,** Dept. of Floriculture, Ithaca, N. Y. Mr. Alfred M. S. Pridham in charge. General Test Garden. Large collection standard varieties needing all newer varieties including Bulbous. Dwarf Bearded test being made by Dr. Albert H. Wright. Two plants of each of these should be sent to him that they can be studied in the two plots.

**Iowa State College of Agriculture and Mechanic Arts,** Ames, Iowa. Prof. E. C. Volz in charge. General Test Garden having standard varieties. Needs all new varieties and any Beardless, Japanese and Dwarf Bearded varieties.

**Macdonald College,** Quebec, Canada. Prof. T. G. Bunting in charge. Have a small collection of standard varieties and need all newer sorts of all groups. American originations will be especially welcome. Please let Prof. Bunting know what you can send and he will send you a permit number for entry of the plants into Canada.

**Marsh Botanical Garden,** Yale University, New Haven, Conn. Dr. Geo. C. Nichols in charge. Have a collection of better standard sorts and some newer varieties. Need new Beardless and newest Bearded.

**Minnesota, University of.** Mr. F. X. Schreiner, Route 1, Riverview Sta., St. Paul, Minn., in charge. Varieties of Bearded, Beardless, species and Bulbous. All needed for study and display.

**Missouri Botanical Garden,** St. Louis, Mo. Mr. P. A. Kohl in charge. General Test Garden desiring all new varieties, Bearded, Beardless or Bulbous and species to complete collection and provide material for various tests and display.

**Morton Arboretum,** Lisle, DuPage Co., Ill. Mr. C. E. Godshalk in charge. General Test and Display Garden for all kinds of Bearded, Beardless, species. Many duplicates needed as several gardens are being laid out. All standard and new sorts welcome.

**New York Botanical Garden,** Bronx Park, New York, N. Y. Mr. K. M. Boynton in charge. Test Garden for Bearded varieties. **Trial Garden for seedlings.** Breeding Garden for species under direction of Dr. A. B. Stout. Dr. J. K. Small is testing and describing new species collected by him. New varieties of Bearded needed. Seedlings sent in should be marked "Seedlings for Trial."

**Oklahoma, The University of.** Norman, Oklahoma. Prof. R. H. Moore in charge. Needed all standard and new varieties of Bearded, Beardless, Bulbous and species. Wish to get a good representative collection here for study and display.

**Saskatchewan, University of.** Saskatoon, Saskatchewan, Canada. Prof. C. F. Patterson in charge. Glad to receive any newer varieties, particularly of American seedlings and all species to test for hardiness. All groups desired. Senders should write first to Prof. Patterson, who will get permit for specified number of plants.

**Texas Agricultural Experiment Station,** College Station, Texas. Dr. S. H. Yarnell in charge. General Test Garden anxious for all species, Beardless, Bearded, Dwarf Bearded, Bulbous varieties for tests and display. Oncocyclus and Regelia varieties welcomed here. Plants are best sent here in September, October, November rather than in late July and August because of the dry summer season.

## NOTICE

Details of the $100.00 Prize offered by Robert Wayman will be found on page 40 of BULLETIN No. 15.

Publications available from Science Press Printing Co., Lancaster, Pa.

Checks payable to American Iris Society.

**Bulletins**

No. 1. June, 1920. The Culture of Irises in the United States. 32 pp. Out of print.

No. 2. January, 1921. Garden Irises, Past and Present. 44 pp. The Development of Tall Bearded Irises in the 19th Century. Sir Michael Foster and his Irises. Registration and notes on hybridization and garden effects. $1.00.

No. 3. June, 1921. Sir Michael Foster and his Work. 32 pp. Illustrated. Supply limited. $3.00.

No. 4. January, 1922. 34 pp. Check List. Out of print.

No. 5. May, 1922. Symposium. 32 pp. Numerical ratings of some 700 varieties which are a most valuable guide to the relative value of standard varieties. Supply limited. $3.00.

No. 6. October, 1922. Description of Varieties, Part I. 40 pp. Notes on European Irises (see also Nos. 7, 9 and 12). $1.00.

No. 7. January, 1923. Descriptions of Varieties, Part II. 40 pp. Articles by A. J. Bliss, W. J. Caparne, and J. M. Shull. 50 cents.

No. 8. October, 1923. Check List, October, 1923. 40 pp. Out of print.

No. 9. December, 1923. A review of the Irises raised by William Mohr. 46 pp. Ill. A detailed review of bulbous Irises and their culture. Descriptions, Part III. 50 cents.

No. 10. January, 1924. Irises for the Beginner. 60 pp. Ill. A comprehensive treatment of all Irises adapted to the small garden, with recommended lists of varieties, garden and cultural notes. Supply limited. $3.00.

No. 11. May, 1924. Beardless Irises. 40 pp. Ill. A complete and compact review of the species and varieties of this group of the Iris family. The articles by W. R. Dykes are of especial interest. $1.00.

No. 12. October, 1924. Notes and Descriptions, Part IV. 40 pp. Ill. This brings the list of descriptions up to about five hundred of the finest varieties. 50 cents.

No. 13. December, 1924. A Classification of Bearded Irises. 36 pp. The first published color classification of the group and a valuable reference. $1.00.

No. 14. January, 1925. Bertrand H. Farr. 68 pp. Ill. The man and his work with Irises. Official records of the Society, 1920–1925, including the Code of Nomenclature, a 1924 Bibliography of Iris Literature, the White and Black lists of varieties. $1.50.

No. 15. April, 1925. Irises of the Future. 40 pp. Ill. Articles by Sydney B. Mitchell, B. Y. Morrison, Sherman Duffy, and others. Trial garden reports and records. $1.00.

No. 16. July, 1925. A Report on Sterility in Irises. 44 pp. Ill. The first scientific study of the subject and the result of research at the New York Botanical Garden. The American Iris Society has been the first popular flower society to initiate and support scientific research. This BULLETIN is not recommended to the casual reader. Supply limited. $2.00.

No. 17. October, 1925. Japanese Irises and Others. 44 pp. Ill. Prof. Miyazawa speaks of his iris work, M. Denis writes of White Irises, and others tell of their successes. It is an unsually chatty issue. 50 cents.

No. 18. January, 1926. 48 pp. Reports of Officers and of Trial Gardens, Text of Display Garden Agreement. 1925 Bibliography. 1925 Introductions and Registrations. Extracts from Les Iris dans les Jardins, by M. Correvon. $1.00.

No. 19. April, 1926. W. R. Dykes. 40 pp. Ill. Dedicated to the memory of W. R. Dykes, a most interesting and permanent record of a life's work with irises. It includes the most valuable of his occasional writings. Further technical notes on sterility. $1.00.

No. 20. July, 1926. The Iris of Gerard's Herbal. 32 pp. Illustrated from the original. Iris combinations for the garden. Reports of 1926 exhibitions. $1.00.

No. 21. October, 1926. Planting an Iris Garden. 44 pp. Ill. Further Studies in Sterility. Iris flavissima and many odd notes from England and America. Supply limited. $1.50.

No. 22. January, 1927. Exhibition Policy. 60 pp. Ill. 1926 Society Records. 1926 Bibliography. 1926 Introductions and Registrations. Further Sterility Studies. $1.00.

No. 23. April, 1927. Memoriam, Arthur H. Scott. 48 pp. Ill. The value of Iris breeding by S. B. Mitchell. Is scientific research necessary? 1926 Test Garden reports, from the New York Botanical Garden, Brooklyn Botanic Garden, Cornell University, Missouri Botanic Garden. Regelia and Onocyclus Iris. Book reviews. $1.00.

No. 24. July, 1927. 40 pp. European Iris notes. Reports of 1927 exhibitions. Regelio-Cyclus Irises in Canada. Book reviews. $1.00.

No. 25. October, 1927. Early Dwarf Bearded Iris. 40 pp. Early flowering species and varieties and their use in the garden. List of Hybrid Iris of W. J. Caparne. Old Iris names. Discussion of the problems of the Iris breeder. 50 cents.

No. 26. January, 1928. 1927 Reports. 68 pp. Charter and By-laws. Science Series No. 1, The Iris Borer. Irises in California, England, and Italy. The Questionnaire—facts of Interest. $1.00.

No. 27. April, 1928. 64 pp. Garden Reports. The Test Gardens and their Work. Science Series 2, Breeding. Flowering Periods, Prices, and Gardens. Writings of Sir Michael Foster. Book Reviews. $1.00.

No. 28. July, 1928. 64 pp. An Up-to-the-minute rating of hundreds of varieties, thus supplanting No. 5. The Japanese Iris .(illustrated). Plans. 50 cents.

No. 29. October, 1928. 68 pp. Garden Irises and Garden Plans. Science Series 3, Chromosomes—Root Growth. 1928 Exhibitions. Notes From Afar. Descriptions, Part V, and Index to all varieties described. Supply limited. $2.00.

No. 30. January, 1929. 72 pp. 1928 society Records. 1928 Registration and Introductions. Farr Memorial Library. Symposium comments. Book Reviews. Garden Plans No. 3. 50 cents.

No. 31. April, 1929. 60 pp. 1928 Bibliography. Science Series No. 4; Breeding work. Symposium votes as an index to popularity. Garden Plans and Pictures No. 4. 50 cents.

No. 32. July, 1929. 66 pp. Japanese Iris by Geo. M. Reed. Irises for the South. Science Series No. 5; Iris Borer. Verbena Bud Moth. 1928 Iris Notes by J. R. McLeland. Sherman R. Duffy, Chas. E. F. Gersdorff and others. 50 cents.

No. 33. October, 1929. 56 pp. Notes on Irises and Iris Types by Howard E. Weed, Mrs. John T. Love, Countess Senni, C. P. Connell and Mrs. Massey Holmes, Science Series No. 5, Iris Breeding Reports, Dr. A. B. Stout. 50 cents.

No. 34. January, 1930. The Wild Garden—new native species; 1929 Records. 50 cents.

N. 35. April, 1930. Public Gardens; Bibliography 1929; Science Series 7. 50 cents.

No. 36. July, 1930. Travels. From California to England. 50 cents.

No. 37. October, 1930. More Travels—to include France and Italy; Exhibitions. 50 cents.

20% discount will be allowed on all orders for five or more bulletins.

Alphabetical Iris Check List to members $3.50, to non-members $5.00 (price subject to change without notice).

Please note that Bulletins Nos. 1, 4 and 8 are out of print.

We can also supply the following Bulletins of the English Iris Society:

No. 1, 2 ..... 50 cents each. No. 5 ..... $1.50 each.

No. 4 ..... $1.00 each. No. 6 ..... $2.00 each.

No. 7 ..... $1.50 each.

**No. 3 is out of print.**

Iris numbers of Addisonia. Published by the New York Botanical Garden.

Addisonia, No. 1. $3.00. December, 1924.
Addisonia, No. 2. $2.00. March, 1927.
Addisonia, No. 3. $2.00. March, 1929.

## THE AMERICAN IRIS SOCIETY ANNOUNCES REVISED POLICY OF AWARDS

### Recommendations for Honorable Mention

*First:* At Exhibitions in cooperation with American Iris Society.

Group V

Class 24

Irises raised from seed by the exhibitor but not introduced into commerce.

(Note: If the raiser is unable to be present, he may request another person to exhibit seedlings for him, in which case, if an award is made, it will be sent to the raiser instead of to the exhibitor.)

Any one exhibitor may enter not over five seedlings for award. No prize but A. I. S. certificates of Honorable Mention may be recommended for seedlings rated at over 80, *if, in the opinion of the accredited judges, they are of sufficient outstanding merit to warrant such a recommendation,* but the number of H. M's. so recommended in any one show shall not exceed five. (As the Society does not authorize prizes for seedlings, none may be offered by individuals or clubs at any show receiving the cooperation of the A. I. S.)

Recommendations for H. M. shall be sent to the Committee on Awards.

(See scale of points for seedlings, Bulletin 22, pages 6–7).

*Second:* Besides these recommendations for H. M's. at exhibitions in cooperation with the A. I. S., it is proposed to recommend additional H. M.'s. under the following conditions:—

1. Accredited judges may visit flower shows, gardens, or nurseries, etc. and rate new Irises, which will include unintroduced seedlings and those varieties introduced the year of the judging and the year previous to the judging. They may then send such ratings and recommendations for H. M's. to the Committee on Awards.

2. Such judges may rate as many Irises as they wish but may not recommend more than five for H. M. in any one region.

### Honorable Mentions

All recommendations and ratings received under the above conditions shall be compiled by the Committee on Awards, which committee shall then have the power to give H. M's. Besides H. M's. awarded to Irises shown at official exhibitions, not more than five additional H. M's. may be given in each region to Irises which have received sufficient rating from three or more accredited judges.

Accredited judges in the various official regions shall be selected by the Board of Directors and the list published yearly by the Committee on Awards.

The Committee on Awards shall be selected by the President subject to confirmation by the Board of Directors.

### Awards of Merit

Hereafter not more than five Awards of Merit may be given yearly by the Committee on Awards, subject to confirmation of Board of Directors, acting upon the recommendations of the accredited judges.

To be eligible for an A. M. an Iris shall first have been on the recommended list the previous year, and second, shall be rated at 85 or more and recommended by five or more accredited judges.

### Dykes Memorial Medal

The Iris Society of England has offered to the American Iris Society one Dykes Memorial Medal yearly. This is the highest award that can be given to a new Iris. This is to be given only by vote of Board of Directors from among the Irises on the recommended list of the previous year.

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*Published by The Iris Society (England)*

Compiled and edited by GEORGE DILLISTONE.

This book contains 280 pages of Articles, Notes and Comments on species and varieties of Irises written by Mr. Dykes between 1905 and 1925. These have been collected and edited, and are now republished with the permission of the various publications in which they originally appeared. The writings are so full of useful information, much of which is unobtainable from any other source, that it was felt essential to arrange them in permanent form for the use of all Iris lovers.

A committee consisting of Mr. G. P. Baker, Mr. G. L. Pilkington and Mr. George Dillistone have had charge of all arrangements of the publication and were able to raise a guaranty fund to provide the cost of publication.

The collection is a fitting tribute to the man who penned its contents at various times under ever changing circumstances. Throughout the years during which they were written, it is possible to trace the results of first impressions subsequently confirmed or modified.

The ground covered by these writings can be estimated by the fact that the book contains 12 pages of Index in which there are approximately 2,000 references.

By arrangement with The Iris Society (England) The American Iris Society is to be the sole distributor of this book in the United States. As the number of copies allotted to this country is limited, early application is advisable.

The price of the book to the general public is $4, plus 10 cents postage. Special price to the members of the American Iris Society and of the Iris Society of England is $3.50 plus ten cents postage.

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Until the present issue of the New Peony Manual is exhausted the Directors of the American Peony Society have reduced the price to $3.15, delivered. This is a reduction of 50% from former price and was prompted to meet present conditions and make it possible for every garden lover to obtain a copy, which at present price is below cost of production.

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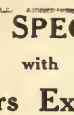
5 Points Star  Mark Our Program

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## PEONIES

**Standard and Originations.**

**J. C. NICHOLLS**
Ithaca, New York

Collection of Hardy but less common iris—$5.00 delivered

| | |
|---|---|
| **Dilkash** | **Lady Lifford** |
| **Ibpall** | **Cherokee Maid** |
| **Nazarin** | **Zwanenburg** |

**Saturn**

The first six are pogonocyclus the last a regelio-cyclus.

**C. S. MILLIKEN**
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